Appln. No.: 10/534,192

Amendment Dated September 1, 2006 Reply to Office Action of June 29, 2006

<u>Amendments to the Claims:</u> This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- (Currently Amended) A gearbox for transmission systems in devices for 1. metering materials, comprising: a pair of shafts, including a drive-input shaft and a drive-output shaft, respectively, provided on the drive-output shaft at least one pair of coaxial freewheels, on each of which an end of a respective linkage carrying a movable fulcrum means is active, the opposite end of each linkage being driven with a reciprocating oscillatory motion about the fulcrum means by an eccentric device provided on the drive-input shaft in order to convert the reciprocating oscillatory motion into an intermittent rotary motion of each freewheel and to bring about a rotary motion of the drive-output shaft in a preselected direction of rotation, the drive-input shaft including at least one pair of cranks with eccentric pins, and each linkage including a respective connecting-rod element having a first end connected kinematically to the corresponding freewheel and a second, opposite end articulated on the respective pin of the drive-input crankshaft with a capability for rotary and translational movement relative to the pin, the movable fulcrum means including, for each connecting-rod element, a respective fulcrum pin, (each fulcrum pin being movable, in adjustable manner, between the first end and second end of the connecting-rod element so as to define different lever arms between said ends and to adjust a transmission ratio between the drive-input shaft and the drive output-shaft of the gearbox, and each fulcrum pin has a first end restrained on a stationary structure of the gearbox and an opposite second end restrained on the corresponding connecting-rod element to constitute the center of the rotation of said connecting-rod element during the reciprocating oscillatory motion relative to the drive-input shaft, said first end of the fulcrum pin being guided slidably in a wall of a casing constituting a gearbox housing and the second end of said fulcrum pin being engaged rotatably and slidably in a seat formed in the corresponding connecting-rod element.
- 2. (Previously Presented) The gearbox according to claim 1 in which guide means are provided on each of the connecting-rod elements for guiding the second connecting-rod end on the respective pin of the crankshaft during the eccentric rotary motion of the pins relative to rotation of the drive-input shaft.

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- 3. (Currently Amended) The gearbox according to claim 2 in which the guide means comprise, on each connecting-rod element, a respective elongate slot-like portion which can be engaged slidably by the corresponding pin.
- 4. (Currently Amended) The gearbox according to claim 3 in which the slot–like portion is elongate in a direction transverse the rotation of the drive-input shaft of the gearbox.
- 5. (Previously Presented) The gearbox according to claim 3 in which the slot-like portion is open at the second end of the connecting-rod element.
- 6. (Previously Presented) The gearbox according to claim 5 in which the open slot-like portion is defined by a pair of opposed, parallel and spaced-apart walls between which the corresponding pin of the drive-input crankshaft is guided slidably.
- 7. (Previously Presented) The gearbox according to claim 6 in which at least one sliding block is interposed between the walls of the slot and the pin, the sliding block having a first surface and a second surface which are in sliding contact with the walls of the slot and with the pin, respectively.
- 8. (Previously Presented) The gearbox according to claim 1 in which the eccentric pins provided in the cranks of the drive-input shaft are offset by 180° relative to the rotation of the shaft.
- 9. (Previously Presented) The gearbox according to claim 1 in which each of the freewheels comprises an inner ring keyed to the drive-output shaft and an outer ring coaxial therewith and capable of rotating freely or with torque transmission, depending on the direction of relative rotation of the rings, each connecting-rod element being articulated, at the first end, to a collar portion fitted on the outer ring and fixed for rotation therewith.

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10. (Previously Presented) The gearbox according to claim 1 in which the second end of the fulcrum pin is guided in the seat with the interposition of a sliding block engaged slidably in the seat and coupled rotatably with the pin.

- 11. (Previously Presented) The gearbox according to claim 1 in which the seat extends from the first end of the connecting-rod towards the second, opposite end of the connecting-rod.
- 12. (Previously Presented) The gearbox according to claim 1in which actuator means are provided and are active on the fulcrum pins in order to move the position of the fulcrum relative to the connecting rod in an adjustable manner correlated with a preselected transmission ratio between the drive-input shaft and the drive-output shaft of the gearbox.
- 13. (Currently Amended) The gearbox according to claim 12 in which the actuator means comprise, for each fulcrum pin, a lever mechanism a free end of which is fixed for rotation with a control shaft and which is articulated on the fulcrum pin with a capability for rotary/translational movement between the fulcrum pin and the lever mechanism.
- 14. (Previously Presented) The gearbox according to claim 13 in which each fulcrum pin is restrained on the respective lever mechanism with the interposition of a sliding block engaged slidably in a seat of the lever mechanism and coupled rotatably with the fulcrum pin.
- 15. (Previously Presented) A metering device for the metered delivery of materials, comprising a gearbox formed in accordance with claim 1for controlling transmission to respective metering members.
- 16. (Previously Presented) A agricultural sowing machine comprising a metering device for the metered delivery of granular seed, formed in accordance with claim 15.
- 17. (Currently Amended) The gearbox according to claim 1, wherein the gearbox is for transmission systems in devices for metering granular and/or materials in powder form.

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- 18. (Currently Amended) The metering device according to claim 15, wherein the metering device is for the metered delivery of granular and/or materials in powder form.
- 19. (New) The gearbox according to claim 1, wherein the gearbox is for transmission systems in devices for metering granular or materials in powder form.
- 20. (New) The metering device according to claim 15, wherein the metering device is for the metered delivery of granular or materials in powder form.
- 21. (New) The gearbox according to claim 12 in which the actuator means comprise, for each fulcrum pin, a lever mechanism a free end of which is fixed for rotation with a control shaft and which is articulated on the fulcrum pin with a capability for translational movement between the fulcrum pin and the lever mechanism.